

Customer No. 28880

Confirmation No. 9823

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 6

**Complete if Known**

Application Number	10/075,954
Filing Date	February 13, 2002
First Named Inventor	Charles Andrianjara
Art Unit	1624
Examiner Name	Truong, Tamthom Ngo
Attorney Docket Number	A0000476-01-CFP

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TNT	✓	US- 3,655,679	04-11-1972	Shen, et al.	260/295
	✓	US- 5,521,181	05-28-1996	Meyer, et al.	514/249
	✓	US- 2003/0004172 A1	01-02-2003	Harter, et al.	514/260.1
	✓	US- 2003/0078276 A1	04-24-2003	Andrianjara, et al.	514/266.1
	✓	US- 2002/0151558 A1	10-17-2002	Andrianjara, et al.	514/267
	✓	US- 6,656,932 B2	12-02-2003	Picard, et al.	514/223.2
	✓	US- 2002/0156069 A1	10-24-2002	Picard, et al.	514/223.2
	✓	US- 2003/0144274 A1	07-31-2003	Bunker, et al.	514/223.2
	✓	US- 2003/0130278 A1	07-10-2003	Gaudilliere, et al.	514/228.5
	✓	US- 2003/0216402 A1	11-20-2003	Gaudilliere, et al.	514/251
	✓	US- 2003/0220355 A1	11-27-2003	Gaudilliere, et al.	514/266.2
	✓	US- 2004/0006077 A1	01-08-2004	Gaudilliere, et al.	514/227.8
	✓	US- 2004/0063673 A1	04-01-2004	Johnson	514/114
	✓	US- 2004/0044000 A1	03-04-2004	Bunker, et al.	514/248
	✓	US- 2004/0038961 A1	02-26-2004	Bunker, et al.	514/210.21
	✓	US- 2004/0038959 A1	02-26-2004	Bunker, et al.	514/210.21
	✓	US- 2004/0043985 A1	03-04-2004	Hicks, et al.	514/210.21
	✓	US- 2004/0034009 A1	02-19-2004	Roark	514/210.21
TNT	✓	US- 2004/0043986 A1	03-04-2004	Nahra, et al.	514/210.21

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
TNT	✓	JP1996143568A ✓	06-04-1996	Hiroko, et al.		
	✓	WO 02/064,599 A1 ✓	08-22-2002	Dyer, et al.		
	✓	WO 02/064,598 A1 ✓	08-22-2002	Harter, et al.		
	✓	WO 02/064,080 A2-A3 ✓	08-22-2002	Andrianjara, et al.		
	✓	WO 02/064572 A1 ✓	08-22-2002	Andrianjara, et al.		
TNT	✓	WO 02/064595 A1 ✓	08-22-2002	Andrianjara, et al.		

Examiner Signature		Date Considered	11/23/04
--------------------	--	-----------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

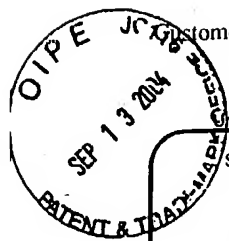
This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

09/15/2004 MHEKONEN 00000107 10075954

01 FC:1806

180.00 DA



Customer No. 28880

Confirmation No. 9823

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/075,954
Filing Date	February 13, 2002
First Named Inventor	Charles Andrianjara
Art Unit	1624
Examiner Name	Truong, Tamthom Ngo
Attorney Docket Number	A0000476-01-CFP

Sheet 2 of 6

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
TNT	✓	US- 2004/0043984 A1	03-04-2004	O'Brien	
	✓	US- 2004/0043983 A1	03-04-2004	Li	
	✓	US- 2004/0038974 A1	02-26-2004	Ortwine	
	✓	US- 10/071,032		Dyer, et al	Filed: 02-08-2002
	✓	US- 10/634,489		Roark	Filed: 08-05-2003
	✓	US- 10/739,261		Bunker et al.	Filed: 12-18-2003
TNT	✓	US- 6,008,243	12-18-1999	Bender, et al.	514/422
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

class/subclass

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
	✓	WO 02/064578 A1	08-22-2002	Picard, et al.		
		WO 03/032999 A1	04-24-2003	Bunker, et al.		
		WO 03/033478 A1	04-24-2003	Gaudilliere, et al.		
		WO 03/076417 A2-A3	09-18-2003	Gaudilliere, et al.		
		WO 04/000322 A1	12-31-2004	Gaudilliere, et al.		
		WO 04/014384 A2	02-19-2004	Johnson		

not available

Examiner  
SignatureDate  
Considered

11/23/04

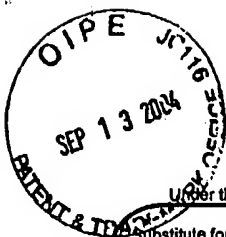
\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**



PTO/SB/08B (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/075,954		
		Filing Date	February 13, 2002		
		First Named Inventor	Charles Andrianjara		
		Art Unit	1624		
		Examiner Name	Truong, Tamthom Ngo		
Sheet	5	of	6	Attorney Docket Number	A0000476-01-CFP

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
TNT	✓	NEJELIJKO KUJUNDZIC AND BERISLAV GLUNCIC, "Synthesis of 8-Methyl-1,2,3,4-tetrahydropyrido-[3,4-d]pyrimidine-2,4-diones", Croatia Chemica Acta, 1991, 64 (4) 599-606.	✓
	✓	HIROTA, et al., "Novel Synthesis of Pyrido[3,4-d]pyrimidines, Pyrido[2,3-d]-pyrimidines, and Quinazolines via Palladium-Catalyzed Oxidative coupling", Heterocycles, 1994; 37(1):563-570	
	✓	LOVEJOY, et al., "Crystal structures of MMP-1 and -13 reveal the structural basis for selectivity of collagenase inhibitors", Nature Structural Biol., 1999; 6:217-221	
	✓	MOY, et al., High-resolution solution structure of the catalytic fragment of human collagenase-3 (MMP-13) complexed with a hydroxamic acid inhibitor", J. Mol. Biol., 2000; 302, 671-689	
	✓	MITCHELL, et al., "Cloning, Expression, and Type II Collagenolytic Activity of Matrix Metalloproteinase-13 from Human Osteoarthritic Cartilage", J. Clin. Invest., 1996; 97(3):761-768	
	✓	NEUHOLD, et al., "Postnatal expression in hyaline cartilage of constitutively active human collagenase-3 (MMP-13) induces osteoarthritis in mice", J. Clin. Invest., 2001; 107: 35-44	
	✓	DAHLBERG, et al., "Selective Enhancement of Collagenase-Mediated Cleavage of Resident Type II Collagen in Cultured Osteoarthritic Cartilage and Arrest with a Synthetic Inhibitor that Spares Collagenase I (Matrix Metalloproteinase 1)", Arthrit. & Rheum. 2000; 43(3): 673-682	
	✓	BILLINGHURST, et al., "Comparison of the Degradation of Type II Collagen and Proteoglycan in Nasal and Articular Cartilages Induced by Interleukin-1 and the Selective Inhibition of Type II Collagen Cleavage by Collagenase". Arthrit. & Rheum. 2000; 43(3): 664-672	
	✓	BILLINGHURST, et al., "Enhanced Cleavage of Type II Collagen by Collagenases in Osteoarthritic Articular Cartilage", J. Clin. Invest., 1997; 99:1534-1545	
TNT	✓	Office Action from 10/264,764 (PC20536) mailed 6/16/2003.	

Examiner Signature		Date Considered	11/23/04
--------------------	--	-----------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Customer No. 28880

Confirmation No. 9823

PTO/SB/08B (08-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

Complete if Known

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**


(Use as many sheets as necessary)

Application Number	10/075,954
Filing Date	February 13, 2002
First Named Inventor	Charles Andrianjara
Art Unit	1624
Examiner Name	Truong, Tamthom Ngo
Attorney Docket Number	A0000476-01-CFP

Sheet	6	of	6
-------	---	----	---

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
TMT ✓	✓	WERNICKE, et al., "Cloning of Collagenase 3 from the Synovial Membrane and Its Expression in Rheumatoid Arthritis and Osteoarthritis", J. Rheum., 1996, 23(4) 590-595	
	✓	REBOUL, et al., The New Collagenase, Collagenase-3, Is Expressed and Synthesized by Human Chondrocytes but not Synoviocytes", J. Clin. Invest. 1996, 97(9), 2011-2019	
	✓	FREEMONT, et al., "In Situ Zymographic Localisation of Type II Collagen Degrading Activity in Osteoarthritic Human Articular Cartilage", Ann. Rheum. Dis., 1999, 58, 357-365	
TMT ✓	✓	SPINALE, et al., "A Matrix Metalloproteinase Induction/Activation System Exists in the Human Left Ventricular Myocardium and is Upregulated in Heart Failure", Circulation, 2000, 102(16) 1944-1949	

Examiner Signature		Date Considered	11/23/04
--------------------	---	-----------------	----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

## SUPPLEMENTAL

(use as many sheets as necessary)

**Complete if Known**

<b>Application Number</b>	10/075,954
<b>Filing Date</b>	February 13, 2002
<b>First Named Inventor</b>	Charles Andrianjara
<b>Group Art Unit</b>	1614
<b>Examiner Name</b>	Unknown
<b>Attorney Docket Number</b>	A0000476-01-CEP

[illegible][illegible]

11/17/04

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.**